

NEW SYNONYMS IN THE GENERA *DISCOCYRTUS* AND *PACHYLOIDES* (OPILIONES, GONYLEPTIDAE, PACHYLINAE)

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ABSTRACT. To contribute to a depuration of the species-level taxonomy in the Gonyleptidae Pachylinae, the following synonymies are proposed: *Discocyrtus minutus* Roewer 1913 = *Discocyrtus testudineus* (Holmberg 1876); *Discocyrtus spinosus* Roewer 1916 and *Discocyrtus exceptionalis* Mello-Leitão 1933 = *Discocyrtus prospicius* (Holmberg 1876); *Pachylus spinosus* Canestrini 1888 (currently in *Pachyloides*) = *Discocyrtus dilatatus* Sørensen 1884; *Canalsia delicata* Mello-Leitão 1930 (removed from the synonymy of *Pachyloides iheringi* Roewer 1913) and *Pachyloides aelleni* Šilhavý 1979 = *Pachyloides thorellii* Holmberg 1878. All citations of *Discocyrtus affinis* Roewer 1913 from Argentina are referred to *D. prospicius* (the full synonymy is suspected but not formally proposed). References of *P. iheringi* from Argentina are determined to be *P. thorellii*. Comments on the type material, the type localities and on misidentifications of previous authors are included.

RESUMEN. A fin de contribuir a una depuración taxonómica en Gonyleptidae Pachylinae, se proponen las siguientes sinonimias: *Discocyrtus minutus* Roewer 1913 = *Discocyrtus testudineus* (Holmberg 1876); *Discocyrtus spinosus* Roewer 1916 y *Discocyrtus exceptionalis* Mello-Leitão 1933 = *Discocyrtus prospicius* (Holmberg 1876); *Pachylus spinosus* Canestrini 1888 (hasta ahora en *Pachyloides*) = *Discocyrtus dilatatus* Sørensen 1884; *Canalsia delicata* Mello-Leitão 1930 (excluida de la sinonimia de *Pachyloides iheringi* Roewer 1913) y *Pachyloides aelleni* Šilhavý 1979 = *Pachyloides thorellii* Holmberg 1878. Todas las referencias de *Discocyrtus affinis* Roewer 1913 para Argentina son referidas a *D. prospicius* (se sospecha la sinonimia plena de ambas especies, pero no se la propone formalmente). Se determina que las citas de *P. iheringi* para Argentina corresponden a *P. thorellii*. Se incluyen comentarios sobre el material típico, las localidades tipo y sobre los errores de identificación de autores previos.

One major hindrance in estimating the diversity of a given taxon is, no doubt, the persistence of nominal taxa with unclear status. The speciose subfamily Pachylinae (Gonyleptidae), which includes not less than 400 species, contains many entities described from a single or few specimens, chiefly by Roewer and Mello-Leitão. Because most of them were not further considered, or were merely mentioned in checklists, numerous doubtful situations and poorly known forms still persist. In recent years I have devoted my research to members of this subfamily from Argentina and neighboring countries. Through the study of several collections (types included) I was able to detect several species, hitherto assigned to the genera *Discocyrtus* Holmberg 1878 and *Pachyloides* Holmberg 1878, whose current status needs correction, either by invalidation through full synonymy, or deletion from the Argentinian checklist. The results given here contribute to the depuration of the

taxonomy of the group. The nomenclatural changes are indicated in abbreviated synonymies and briefly discussed below (references to where complete synonymies can be found are provided). Abbreviations of museums and collections are listed in the Acknowledgments section.

Discocyrtus testudineus (Holmberg)

Gonyleptes testudineus Holmberg 1876:29. *Type:* According to Holmberg (1876) it is "one example [male] in the Museum of the A.A. [= Academia Argentina], caught by [Rafael] Obligado and [Martin] Coronado (*loc. cit.*)" [Puerto Obligado, province of Buenos Aires, Argentina]; lost. *Discocyrtus testudineus:* Holmberg 1878:74. Ringuélet 1959:308 [complete synonymy for *D. testudineus*].

Discocyrtus minutus Roewer 1913:115, fig. 53. Roewer 1923:431, 437, fig. 548. Roewer 1929:202. Mello-Leitão 1932:167. Soares & Soares 1954:252. *Type:* Holotype male (SMF RI/796), "Argentinien: San Ignacio" (examined). NEW SYNONYMY.

Comments.—Although Ringuelet (1959), following Soares & Soares (1954), states that “one or more types” of *D. testudineus* would be in ZMC, in this collection there is no material with such label (only the specimens cited by Sørensen 1884 from “Riacho de Oro,” “Villa Hernandaria” and “Baradero”). The holotype of *D. minutus* was mistakenly cited by Roewer (1913) from Bolivia, since the label states “Argentinien: San Ignacio” (Acosta 1996b), presumably in the Province of Misiones. In this specimen, apophyses of leg IV are less developed than usual, as it is commonly found in small males like this one.

Discocyrtus prospicius (Holmberg)

Gonyleptes prospicius Holmberg 1876:28. *Types*: “Several examples in our collection, captured in Las Conchas and near Palermo. There are some in the Museum of the University of Buenos Aires too” (Holmberg 1876); they are very likely lost. “Las Conchas” is today Tigre; Palermo is a quarter in the city of Buenos Aires.

Discocyrtus prospicius: Sørensen 1884:630. Ringuelet 1959:303 [complete synonymy for *D. prospicius*].

?*Discocyrtus affinis* Roewer 1913:117, fig. 54. *Types*: Syntypes, 2♂ (SMF RI/810, examined), “Brasilien” [in the original publication Roewer adds “São Paulo”; Acosta 1996b]. POSSIBLE SYNONYMY, see below.

Discocyrtus spinosus Roewer 1916:113, fig. 17. Roewer 1923:432, 438, fig. 551. Roewer 1929:203. Mello-Leitão 1932:168. Mello-Leitão 1939:624. Soares & Soares 1954:255. Ringuelet 1959:151, 196, 307. *Type*: Holotype ♂ (SMF RI/1315), “Argentinien: Bahía Blanca” (examined). NEW SYNONYMY.

Discocyrtus affinis: Roewer 1929:204, 205 (misidentification). Roewer 1938:6 (misidentification).

Discocyrtus exceptionalis Mello-Leitão 1933:59. Mello-Leitão 1939:623. Soares & Soares 1954:248. Ringuelet 1957:19, 23. Ringuelet 1959:196, 301. Capocalse 1966:635. *Type*: Holotype ♂ (MACN 4601), “Punta Rasa” [misspelling for Punta Lara, province of Buenos Aires, Argentina: Galiano & Maury 1979], August 1931, J. Daguerre coll. (examined). NEW SYNONYMY.

Comments.—Soares & Soares (1954) assumed that the types of *D. prospicius* are 8♂ and 6♀ deposited in ZMC. Very likely these are 14 specimens that Holmberg collected in Buenos Aires and gave to Sørensen, as cited by the latter (1884). Of them, only 5♂ and 3♀ remain. Since they were identified by Holm-

berg, these specimens may deserve special consideration, but there is no evidence that they are types.

The morphology of the femur IV characterizes males of *D. prospicius* (Acosta 1989), but the numerous femoral apophyses show variability. The dorsoproximal apophysis is most constant, while in retrodorsal position 1 or 2 apophyses may exist (rarely lacking). The retroventral apophysis is sometimes indistinguishable from the row of lower apophyses in that position. Though less developed (as usual in small specimens), apophyses of the holotype of *D. exceptionalis* show an identical pattern. The closeness of this species and *D. prospicius* was already mentioned by Ringuelet (1959), but considering two minor differences (“scutal area IV undivided” and “[bifid] apophysis of coxa IV with branches of the same length”) he preferred to maintain its validity. I believe these supposed differences are insignificant; and they do not support any specific separation, hence the synonymy.

Also *D. affinis* might prove to be a junior synonym of *D. prospicius*. However, the types of the former show some slight differences in the apophyses pattern of femur IV of male; and for the moment it is difficult to determine whether they represent species, population or individual differences (more material from Brazil would be required). Nonetheless, citations of “*D. affinis*” from Argentina (Roewer 1929, 1938) are undoubtedly *D. prospicius*. *Discocyrtus affinis* is therefore excluded from the Argentinian checklist.

Material examined.—**ARGENTINA.** *Capital Federal*: “Buenos Aires” (Silv.), 1♂3♀ (MNHN, Coll. Simon 23383, det. *D. affinis* by Roewer 1925). *Province of Buenos Aires*: La Plata, 3♂1♀ (SMF RII 5841/100, det. *D. affinis* by Roewer 1935), 3♂1♀, Cpt. Kinberg coll. (NRS, det. *D. affinis* by Roewer 1935).

Discocyrtus dilatatus Sørensen

Discocyrtus dilatatus Sørensen 1884:627, 631. Acosta 1995:209 [complete synonymy for *D. dilatatus*].

Pachylus spinosus Canestrini 1888:108, pl. 9, fig. 1. *Type(s)?*: The author does not state how many specimens he studied, but at least a female from “Chaco australe” (likely the present Argentinian Province of Chaco) is illustrated. This material can no longer be found in Padova (A. Minelli *in litt.*) and is presumably lost. NEW SYNONYMY.

Pachyloides spinosus: Roewer 1913:98. Roewer 1923:431. Mello-Leitão 1939:621. Soares & Soares 1954:282. Ringuelet 1959:356 [*species inquirenda*]. Acosta 1996a:10 [*ditto*].

Comments.—Despite the brevity of the description, drawings of *Pachylus spinosus* show very clearly a female *Discocyrtus dilatatus* (cf. Canestrini 1888: fig. 1, and Acosta 1995: figs. 3–5); also the tarsal formula and approximate size agree. Indeed, it was Roewer (1913) who first assigned *spinosus* to *Pachyloides* (with doubts on the species identity, however), and the few subsequent authors just repeated the combination. Very probably Roewer (1913) took into account the supposedly unarmed scutum to place this species in *Pachyloides*; as I already stressed (Acosta 1995), the paired tubercles of area III are often difficult to distinguish from the dorsal granulation, especially in females. This feature led to some further confusion between these genera; e.g., Müller (1918) described two new Paraguayan species in *Pachyloides* (*fischeri* and *tuberculatus*), but both were synonymized under *D. dilatatus*, too (Acosta 1995).

Pachyloides thorellii Holmberg

Pachyloides Thorellii Holmberg 1878:72. *Types*: Two males (syntypes), from Buenos Aires (“Estación Central del Ferrocarril del Norte”), Feb. 1876, E.L. Holmberg coll., and San Martín, province of Buenos Aires, E. Aguirre coll. (both specimens lost).

Canalsia delicata Mello-Leitão 1930:137, 140, fig. 1. Mello-Leitão 1939:620. Soares & Soares 1954: 241. *Type*: Holotype female (MACN 4696), Buenos Aires, Feb. 1910, A. Frers coll. (examined). Formerly synonymized under *Pachyloides iheringi* Roewer 1913 (Ringuelet 1956). NEW SYNONYMY.

Parabalta borellii: Mello-Leitão 1931:81 [male from San Antonio de Areco, misidentified].

Pachyloides iheringi: Ringuelet 1956:19 [= *Canalsia delicata*, synonymy incorrect]. Ringuelet 1959:353 [misidentification]. Galiano & Maury 1979:318.

Pachyloides thorelli thorelli: Ringuelet 1959:356 (in part) [complete synonymy for *P. thorellii*, but discard citations listed below under “Nec”].

Parabalta sicaria: Ringuelet 1959:365 [the same male of Mello-Leitão 1931, misidentified]. Ringuelet 1962:2 [male from Alta Gracia, misidentified].

Pachyloides aelleni Šilhavý 1979:322, figs. 1–5. *Types*: According to Šilhavý, holotype male and paratype male, in the same vial (MHNG); only the former is now found in the collection, togeth-

er with two minute vials, each containing one male genitalia (examined): Gruta de Arequita, Lavalleja, Uruguay, 15 February 1968 (P. Strinati). NEW SYNONYMY.

NEC: Sørensen 1895:2. Roewer 1925:16. Roewer 1929:201. Ringuelet 1959:358 (part.) [citations from province of Tucumán].

Comments.—In *P. thorellii*, morphology of males and females may not differ so sharply as usual in Pachylinae. The prolateral apophysis of coxa IV of females is larger than in other *Pachyloides* species, though still shorter than in most males. In addition, females of this species are unique in the genus in bearing a small dorsal apophysis on the trochanter IV, which represents the well developed, finger-shaped apophysis of the male (Canals 1943:16). Sex identification is complicated by the presence of “feminoid” males (4/30 in the studied material). This overlap makes it necessary to observe genitalia in all “female-shaped” specimens to determine sex with certainty (“normal” males are easily recognizable). Ringuelet (1959) was obviously unaware of this fact, and in many cases he determined the sex of his material incorrectly. Ringuelet also overlooked the variability of the number of tarsomeres on legs III–IV; because of this, he erroneously identified as “*Parabalta sicaria*” Roewer 1925 any *Pachyloides* specimen bearing 6 tarsomeres in those legs. As I stated before (Acosta 1992 1996a), Ringuelet’s citations of “*Parabalta sicaria*” are all misidentifications, and they include three different *Pachyloides* species (*P. thorellii*, *P. yungarum* Acosta 1999, *P. cochunna* Acosta 1996a), but not the true *sicaria*. Ringuelet’s misuse of the character, number of tarsomeres is emphasized by a simple fact: *P. sicarius* is easily distinguishable from the above cited three *Pachyloides* species by the lack (in *sicarius*) of a finger-like apophysis on trochanter IV of male. In the material of *P. thorellii* I studied, 11% of the tarsi III and 6% of the tarsi IV bear 6 tarsomeres instead of 7. This is more frequent in females, and asymmetry is also common.

Ringuelet (1956) puts *Canalsia delicata* in the synonymy of *Pachyloides iheringi* Roewer 1913, but the holotype of the former is a female *P. thorellii*. All materials cited as “*P. iheringi*” by Ringuelet (1959) are indeed *P. thorellii*, including the alleged “allotype male” (designation by Ringuelet 1959, not

valid), which is actually a female. Consequently, also *P. iheringi* is now excluded from the Argentinian fauna. Syntypes of *P. iheringi* are two females (examined), one deposited in ZMB (2492), the remaining presumably in SMF (RI/799) (Acosta 1996b); it is clear that they do not correspond to Ringuelet's concept. Roewer (1913) mentions the type locality doubtfully ["Argentinien oder Uruguay? (genaue Loc.?)"], but labels state "Santa Cruz" (Acosta 1996b), presumably Santa Cruz do Sul (State of Rio Grande do Sul, Brazil). *Pachyloides iheringi* is very similar to other Brazilian "*Pachyloides*": *P. bellicosus* Roewer 1913, *P. calcartibialis* Roewer 1916, *P. armatus* Roewer 1916, *P. fallax* 1932 and *P. taurus* Mello-Leitão 1937. These six species very likely form a monophyletic group, and do not show any special similarity with *Pachyloides s.s.*; and they may actually represent a different genus (Acosta, 1996a).

Another species to be synonymized to *P. thorellii* is *P. aelleni*, captured in an Uruguayan cave (Gruta de Arequita). The type of the latter coincides exactly to the external and genital male morphology of *P. thorelli*. This synonymy, together with a couple of males collected in a cave in Province of Buenos Aires, constitutes further records of *P. thorellii* from caves (Capocasale 1968 cited the species from "Gruta Salamanca," Uruguay). As already reported, this species is known to be quite ubiquitous. Ringuelet (1959) considers it to be synantropic, since it is commonly found in houses and gardens in the cities of Buenos Aires and La Plata. I studied material found in such unusual places as in subterranean vaults of the telephone network in Buenos Aires. Maury (pers. comm.) even caught a specimen in the bathroom of the Museo Argentino de Ciencias Naturales! Captures in ant nests are also known (Acosta 1989). Confirmed records of this species come from the Argentinian provinces of Buenos Aires, Entre Ríos and Córdoba, and from southern Uruguay. Citations from Tucumán (cf. Sørensen 1895:2; Ringuelet 1959:358) correspond without doubt to *Pachyloides yungarum* Acosta (1999), as are also Roewer's references (1925, 1929) from "Cala" (El Tala), province of Salta (SMF RII: 264/9, examined. Materials he cited from Museo di Zoologia di Torino are no longer mentioned in Catalogues).

New records.—**ARGENTINA:** *Capital Federal*. Subterranean telephone vaults, Constitución St.-Saenz Peña St. corner, 1♂1♀, 19 June 1963 (A. Ibarra Grasso) (MACN), Santiago del Estero St. -Humberto 1° St. corner, 1♂1♀, 15 October 1969 (E. Maury) (MACN); "Buenos Aires", 2♀, November 1937 (J.B. Daguerre) (MACN 4698, det. as "2 males" *Pachyloides iheringi* by Ringuelet, one designated as "allotype"); same loc. (E.V. Gemignani) 1♀ (MACN 4700, formerly 10958, det. *Pachyloides iheringi* by Ringuelet, "young male" illustrated in fig. 50). *Province of Buenos Aires*. San Antonio de Areco, 1♂, 23 November 1920 (A.G. Frers) (MACN 4743, det. *Parabalta borellii* by Mello-Leitão, *Parabalta sicaria* by Ringuelet); Baradero, 2♂, 18 January 1916 (A.G. Frers) (MACN 4699, det. *Pachyloides iheringi* by Ringuelet); Cueva Matilde Catriel, Sierras Bayas, 2♂, December 1996 (P. Quaglia) (MACN). *Province of Entre Ríos*. Chajarí, 2♂1♀, 30 June 1977 (M. Viana) (MACN). *Province of Córdoba*. Alta Gracia, 1♂, 1 juv., February 1934 (C. Bruch) (MACN, det. *Parabalta sicaria* by Ringuelet).

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